

FY 2011 REPORT TEMPLATE FOR NSF COMMITTEES OF VISITORS (COVs)

The table below should be completed by program staff.

Date of COV: October 31 - November 1, 2011
Program/Cluster/Section: Robert Noyce Teacher Scholarship Program
Division: Division of Undergraduate Education
Directorate: Education and Human Resources
Number of actions reviewed: Awards: 33 Declinations: 29 Other: 20
Total number of actions within Program/Cluster/Division during period under review: Awards: 212 Declinations: 176 Other: 122
Manner in which reviewed actions were selected: <p>The COV Chair was asked to pick a digit, between "0" and "9", that would be used in selecting the proposals based on the occurrence of the selected digit in the proposal number. She chose the number "6" and proposals were selected through a process of looking at the last digit of the proposal ID number, then the next to last digit until the desired number of proposals had been selected. Using this process, a total of 33 awards: 29 declines, 19 supplements, and "one return without review" proposal were selected for the COV to review.</p>

INTEGRITY AND EFFICIENCY OF THE PROGRAM'S PROCESSES AND MANAGEMENT

Briefly discuss and provide comments for *each* relevant aspect of the program's review process and management. Comments should be based on a review of proposal actions (awards, declinations, and withdrawals) that were *completed within the past three fiscal years*. Provide comments for *each* program being reviewed and for those questions that are relevant to the program under review. Quantitative information may be required for some questions. Constructive comments noting areas in need of improvement are encouraged.

I. Questions about the quality and effectiveness of the program's use of merit review process. Please answer the following questions about the effectiveness of the merit review process and provide comments or concerns in the space below the question.

QUALITY AND EFFECTIVENESS OF MERIT REVIEW PROCESS	YES, NO, DATA NOT AVAILABLE, or NOT APPLICABLE
<p>1. Are the review methods (for example, panel, ad hoc, site visits) appropriate?</p> <p>Comments:</p> <p>The use of panels in the Noyce program is an effective means of carrying out the proposal review process to provide necessary information to NSF, leading to funding decisions. In later sections, the COV makes suggestions for refining the process.</p>	Yes
<p>2. Are both merit review criteria addressed</p> <p style="padding-left: 20px;">a) In individual reviews? b) In panel summaries? c) In Program Officer review analyses?</p> <p>Comments:</p> <p style="padding-left: 20px;">a) In individual reviews?</p> <p>In general, both merit review criteria were addressed.</p> <p>The COV had concerns about the nature of some reviews:</p> <ul style="list-style-type: none"> • Reviews that simply summarized the proposals and did not make qualitative comments about the proposal. • Reviews that did not address intellectual merit in a consistent and thorough manner. • Reviews that commented on intellectual merit broadly and lacked 	Yes

<p>specificity, for example: determining the quality of the project and capacity of the PI to implement the project.</p> <p>b) In panel summaries?</p> <p>In all cases, both merit review criteria are addressed in panel summaries.</p> <p>The COV has made suggestions for strengthening panel summaries in later sections since some were not robust or did not provide qualitative feedback about proposal improvement.</p> <p>c) In Program Officer review analyses?</p> <p>In all cases, both merit review criteria are addressed in Program Officer review analyses.</p> <p>Some were quite detailed and included a presentation of different aspects of the proposals' strengths and weaknesses. In some cases, the analysis seemed to be less specific — especially in the case of weak proposals.</p> <p>Many reviews address the additional criteria that are specific to the Noyce program. The COV recommends consideration be given to specifying program-specific criteria in the review template to enhance targeted responses.</p>	
<p>3. Do the individual reviewers provide substantive comments to explain their assessment of the proposals?</p> <p>Comments:</p> <p>The COV had concerns with inconsistency in the level of detail that was provided to the panel. Most reviewers provided substantive comments on the rationale for their assessments of the proposed projects. However, in some cases, the reviewer provided only one or two sentences that did not justify the rating. A potential consequence of insubstantial reviews is that a panelist's particular area of expertise is not shared as part of the review.</p> <p>The COV noted that the 2010 panels showed some improvement in regard to provision of substantive comments for each proposal.</p>	Yes
<p>4. Do the panel summaries provide the rationale for the panel consensus (or reasons consensus was not reached)?</p> <p>Comments:</p> <p>For the most part, the panel summaries provided sufficient information to determine the rationale for judgments made about proposals (guidelines to panelists indicate that a consensus is not required).</p>	Yes

<p>In some cases, the COV observed items that concerned them:</p> <ul style="list-style-type: none"> • In many of the panel summaries, elements of discussion were captured, but others seemed similar to individual reviews. • The process of rotating the responsibility for writing panel summaries may lead to the highly variable nature of those summaries. • It may be difficult to reflect in the summary those perspectives that represent a particular panelist's expertise. 	
<p>5. Does the documentation in the jacket provide the rationale for the award/decline decision?</p> <p>(Note: Documentation in jacket usually includes context statement, individual reviews, panel summary (if applicable), site visit reports (if applicable), Program Officer review analysis, and staff diary notes.)</p> <p>Comments:</p> <p>The jacket documentation does provide explanations for the award/decline decision. This was present in all cases, even where the decision was relatively straightforward.</p>	<p>Yes</p>
<p>6. Does the documentation to PI provide the rationale for the award/decline decision?</p> <p>(Note: Documentation to PI usually includes context statement, individual reviews, panel summary (if applicable), site visit reports (if applicable), and, if not otherwise provided in the panel summary, an explanation from the Program Officer (written or telephoned with diary note in jacket) of the basis for a declination.)</p> <p>Comments:</p> <p>There was general alignment between the panel summary and the PO comments justifying the award decision, although in some cases the PO comments contained no additional information. Often, the documentation would be very helpful for a revision — but in other cases not. For example, in some of the declinations, the PO comment seemed non-specific (as noted in the previous COV report).</p>	<p>Yes</p>
<p>7. Additional comments on the quality and effectiveness of the program's use of merit review process:</p> <p>The quality and effectiveness of the merit review process is directly affected by the training and the expertise of the reviewers, which, in turn determines the quality of the feedback received by the PI.</p> <p>The COV discussed at length strategies for improving the quality of reviews by</p>	

focusing on panel training, orientation, and operation. Some suggestions include:

Enhanced Panel Preparation

- Mandatory webinar participation, especially for new reviewers. Include samples of helpful and unhelpful review statements.
- Provide reviewers (especially new ones) with time estimates for how long it takes to complete reviews.
- Facilitate a discussion at least 10 days before the panel convenes to provide feedback on the appropriate level of commentary based on the draft reviews of a selected proposal.

Expanded Responsibilities of the Panel Chair

- Expanded mentoring role in overseeing the panel review process.
- Additional recognition for the panel chair being given expanded professional responsibilities.
- Ensuring that review criteria are met.
- Ensuring that all voices are heard (the COV noted the voice of reviewers from K-12 settings tended not to be reflected strongly).
- Ensuring that areas of reviewer expertise are represented in the individual reviews, summary, and panel discussion.

II. Questions concerning the selection of reviewers. Please answer the following questions about the selection of reviewers and provide comments or concerns in the space below the question.

SELECTION OF REVIEWERS	YES , NO, DATA NOT AVAILABLE, or NOT APPLICABLE
<p>1. Did the program make use of reviewers having appropriate expertise and/or qualifications?</p> <p>Comments:</p> <p>The COV recommends that NSF continue its efforts to achieve a balance of institutional diversity on review panels, especially for K-12, baccalaureate, and associates institutions. All panels should have a K-12 member.</p> <p>The COV recommends a balance of expertise. It was difficult for the COV to tell from the summary table of reviewers who has educational research or teacher education areas of expertise. For example, noting a person's discipline as "mathematics" does not distinguish between mathematics education scholars and mathematicians.</p>	Yes
<p>2. Did the program recognize and resolve conflicts of interest when appropriate?</p> <p>Comments:</p> <p>There were very few projects with fewer reviewers than the panel sometimes included, but these proposals were not in the sample pool.</p>	Yes
<p>Additional comments on reviewer selection:</p> <p>The recruitment of reviewers from associates and K-12 environments may require flexibility with respect to: providing replacement costs to institutions (day substitutes), using distance panels, scheduling summertime panels, etc.</p>	

III. Questions concerning the management of the program under review. Please comment on the following:

MANAGEMENT OF THE PROGRAM UNDER REVIEW

1. Management of the program.

Comments:

The COV agreed that the Noyce program has been well managed and has produced significant outcomes with regard to numbers of qualified STEM teachers.

The COV noted, in particular:

- Elements of a continuous improvement model are in place, incorporating recommendations from the last COV report.
- Stability in program management is viewed as an important factor in Noyce program success and should be maintained.
- Rapid Noyce program size increases were handled in a coherent and reasonable way, given the challenges of the timeframe.
- Funding supplements to existing awardees expanded the reach of the program.
- The incorporation of external evaluators is a positive development.
- Focusing on retention in teaching is critical to the program's future success.

2. Responsiveness of the program to emerging research and education opportunities.

Comments:

The creation of a planning grant/capacity-building category within the Teaching Fellowship/Master Teaching Fellowship (TF/MTF) track reflects responsiveness to an opportunity to expand the reach of the program.

Also, consistent use of new media and web reference materials is helpful in keeping participants connected across sites.

The accommodation of alternative certification models helps to acknowledge the changing trends in teacher preparation.

3. Program planning and prioritization process (internal and external) that guided the development of the portfolio.

Comments:

The Noyce program has responded to the Congressional mandate while finding creative and meaningful ways to address critical new opportunities and needs.

For example,

- The strategy for providing supplemental awards to funded projects was an appropriate expansion of the portfolio;
- Systematic data collection helps the program monitor and adjust to outcomes evident in data analyses; and
- The solicitation has been modified to refine language and guidance to the PIs in regard to program effectiveness and emphases.

4. Responsiveness of program to previous COV comments and recommendations.

Comments:

The COV found that the Noyce program responded well to the previous COV comments and recommendations. The current COV noted that adherence to merit review criteria continues to be a challenge. Several recommendations can be found elsewhere in this report.

The previous COV noted that a disproportionate number of awards went to doctoral institutions and the current COV noted that this is a pattern that persists, although the situation has improved. There should be continued efforts to broaden the institutional level of representation among the awards.

IV. Portfolio Review. Please provide comments on whether the program's portfolio goals are appropriate and whether the program has achieved its goals for portfolio balance.

1. The COV might consider the following dimensions of portfolio balance: awards to new investigators, geographical distribution of awards, awards to different types of institutions, award distribution across programmatic tracks or categories, innovative projects, inter- and multi-disciplinary projects, and relevance to agency mission or national priorities.

Comments:

Institutional variety was of concern in regard to non-doctoral institutions. Doctoral institutions have been funded at a rate much higher than other types of institutions. Since 2008, the funding rate for doctoral institutions is 66%; 50% for masters institutions, 30% for baccalaureate institutions, and 20% for associates institutions. Although there may be many factors contributing to this outcome, such as number of proposals submitted and sophistication in preparing grant proposals, it is an area of concern. Technical assistance to address the quality of the proposals may help to address the relatively higher declination rate of non-doctoral institutions.

The geographic distribution of awards remains a concern, particularly in the Northwest. Outreach workshops should be continued to increase the array of institutions and geographic areas represented. Leveraging capabilities of distance delivery as a means of supporting mentoring and induction can increase participation in rural areas.

Based on the data provided, the COV was concerned about the challenge of retaining Noyce teachers beyond their service commitment.

- It is important to encourage projects that create sustainable Professional Learning Communities (PLCs).
- For the TF/MTF participants, loss of the salary supplement is tantamount to a salary cut, creating an incentive to find a higher-paying position. Therefore, phasing down stipends after the commitment term may mitigate the effect.
- Another possible strategy is to create non-monetary incentives (such as support for professional development and leadership within districts) during program participation that increase the likelihood of retention in a high-need school after the service commitment is completed.

There was evidence in the review portfolio of successful community-building projects, which might act as a model for increasing retention in high-need districts.

OTHER TOPICS

1. Please comment on any program areas in need of improvement or gaps (if any) within program areas.

As noted in the prior section, the COV observed that data currently available indicate that about two-thirds of Noyce Scholars leave the school assignment after the service commitment is fulfilled. The evaluation data indicated that some of the departures were from high-need schools to other schools, whereas other departures were from the teaching field altogether. The COV suggests probing this trend further to find ways of encouraging Noyce Scholars to remain in high-need districts beyond the service commitment. Further observations and suggestions include the following:

- If data show departures from high-need districts after service commitment, some incentive for remaining should be considered, such as:
 - Professional resources, such as travel allotments, professional development support, opportunities to mentor other teachers, etc. These are benefits that might make it attractive to remain in the Noyce teaching assignment beyond the commitment period.
 - Reduced stipends for staying beyond commitment (perhaps \$5k/yr for up to 4 additional years). This recommendation is intended to address the current situation, where there is a precipitous drop in compensation at the end of the service commitment.
- Phase II projects should be collecting data to help inform decision-making about how talent might be retained. Some important data elements include:
 - Characteristics of those who are leaving v. those who are staying in high-need districts.
 - Reasons given for leaving and possible incentives to stay.
 - Analysis of premature departures to determine reasons more clearly.
- Opportunities for Noyce Scholar leadership might be connected to service post-commitment. This strategy raises some questions:
 - What would this mean for the grantee, in terms of administrative oversight? How might that commitment be compensated, if at all?
 - Would institutions be willing to extend their monitoring of graduated Noyce Scholars beyond current requirements?

Other COV observations include the following:

The COV recommends that consideration be given to tracking Noyce Scholars well beyond service commitment. The COV thought it would be useful to know what is happening to Noyce Scholars five to ten years after participation (i.e., whether they remain in a STEM-related career).

The COV recommends that in the next phase, the program capture "stories from the field," as a model for improving practice. STEM teachers could be encouraged to interact around common themes – online, for example – to create a space for discussing STEM teaching and learning topics. Use of social media helps to leverage the benefit of Noyce Scholars as brain trusts, leaders, recruiters, and commentators on the program.

The COV suggests that the Abt evaluation scope should be extended to include qualitative information on retention and lessons learned to inform discussion about retention. Such information would enable the program to understand better the issues around retention that seem a natural next phase of work.

The COV observes that, although the Community College Incentive is active in the TF/MTF component of the program, active leadership from within community colleges (e.g., as PI or co-PI) is not apparent. The COV recommends strengthening the language and requirements for collaboration with community colleges to ensure that such relationships are truly meaningful.

Currently, community colleges are not included in the scholarship track; however, they have an opportunity to contribute to that component of the program with summer programs and internships for freshmen and sophomores. The COV recommends that the guidelines for the scholarship track and planning grants be modified to include community colleges as partners. To this end, the S-STEM program might serve as a model for community college leadership in getting students into STEM, as well as continue relationship with students after transfer to the four-year college.

As was recommended in regard to community colleges, the COV recommends strengthening the language and requirements for collaboration with school districts. School district involvement in professional development for Noyce Scholars might be one area where the district is particularly useful in aiding retention of the Scholars. The aim of this recommendation is to work toward reinterpretation of the "high need" school district as a "high value" experience that includes professional community-building and professional development. The proposal requirement for "evidence of functioning partnership" could be clarified and strengthened to increase meaningfulness of partnership beyond mere endorsement of the proposed project.

Other NSF programs have or are currently working with K-12 teacher preparation and education, including addressing issues of retaining individuals in high-need settings. Ensuring that Noyce applicants and recipients have access to such projects, including MSP, REESE, DRK12, etc., will strengthen the Noyce program. Conversely, what is learned in the Noyce program should be communicated to grantees and applicants in those other programs, especially as a means to extend the usefulness of information obtained from Phase II projects.

2. Please provide comments as appropriate on the program's performance in meeting program-specific goals and objectives that are not covered by the above questions.

The COV found that the Noyce program is fulfilling its goal to the number of well-qualified teachers who are serving in high-need districts. In so doing, the program has evolved beyond what was specified in the legislative authorization to include creative elements such as the planning grants, Phase II grants, capacity-building initiatives, and conferences. The COV commends program management for these meaningful additions to the original components.

3. Please identify agency-wide issues that should be addressed by NSF to help improve the program's performance.

The COV makes the following agency-wide recommendations:

- Program Review Process: The COV recommends that the structure of program review process (recruitment, training, and chair orientation) be modified to build capacity in reviewers to do more thoughtful reviews. To accomplish this, the COV recommends the following:

- The training webinar prior to panels should be mandatory and not optional, at least for new reviewers.
 - The role of the panel chair should be expanded to help cultivate higher quality reviews through individual feedback to panelists. One or two preliminary reviews could be conducted before the panel convenes to give feedback on the appropriate type and level of reviewer commentary. This approach might be especially helpful to the large number of new reviewers recruited for each panel.
 - With a limited amount of time to review proposals, perhaps consider more substantive reviews within the area of expertise, rather than the current model of comprehensive reviews from all reviewers. Such in-depth reviews may be of greater use to the PI.
- Additional Review Criteria: The COV recommends modifying the proposal review template to include a block for "additional criteria," to be sure that such information (if applicable) is captured during the review.

4. Please provide comments on any other issues the COV feels are relevant.

The COV recommends that the next COV have information about whether partner districts are urban, suburban, or rural.

5. NSF would appreciate your comments on how to improve the COV review process, format and report template.

The COV found the webinar useful, but insufficient to comprehend the structure of the task. Thus, the COV recommends a discussion among the COV members prior to convening, to promote early and clear organization of the work. In addition, a matrix of template items might be a helpful tool for working through the template.

Selected proposals should be screened to ensure that all types of institutions are included, including those that have low rates of proposal submission.

SIGNATURE BLOCK:



For the Noyce COV
Myra Burnett
Chair